

### **ABSTRACT OF THE DISCLOSURE**

This invention is related to a composition of matter useful for sequestering target metal-ions from an environment , said composition comprising a polymer and derivatized nanoparticles comprising inorganic nanoparticles  
5 having an attached metal-ion sequestrant, wherein said inorganic nanoparticles have an average particle size of less than 200 nm and the derivatized nanoparticles have a stability constant greater than  $10^{10}$  with iron (III).